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INTERNATIONAL ECONOMIC CLASSIFICATIONS

Report of the Expert Group on International Classifications

Note by the Secretary-General

The Secretary-General has the honour to transmit to the Statistical Commission the report of the Expert Group on International Classifications which was convened from 6 to 8 December 1994 to examine the present status of the work on international classifications and to make recommendations concerning future directions. The report of the Expert Group is based on the conclusions of the Expert Group and is contained in the annex to the present note.

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Annex

REPORT OF THE EXPERT GROUP ON INTERNATIONAL CLASSIFICATIONS

SUMMARY

In the present report, section I (paras. 3-10) defines the types of classifications identified by the Expert Group as appropriate for its consideration; section II (paras. 11-15) describes the "core" classifications and their role in the future development of related classifications, as well as the special status of the classifications of expenditure by purpose (formerly called the functional classifications); section III (paras. 16-26) discusses the Expert Group's views on an integrated framework for the classifications; and section IV (para. 27) introduces the Expert Group's Strategic Plan for Improving the Coordination of Future Work on International Classifications, which is presented in appendix I. Appendices II and III relate to the three-day meeting: appendix II contains the list of participants and appendix III contains the annotated agenda for the meeting.

CONTENTS

		Paragraphs	Page
INTRODUCTION		1 - 2	4
I.	CLASSIFICATIONS TO BE REVIEWED BY THE EXPERT GROUP	3 - 10	4
II.	CORE CLASSIFICATIONS	11 - 15	6
III.	AN INTEGRATED FRAMEWORK OF CLASSIFICATIONS BASED ON LINKS BETWEEN THE CLASSIFICATIONS	16 - 26	7
IV.	PRESENT AND FUTURE WORK ON CLASSIFICATIONS BY INTERNATIONAL ORGANIZATIONS AND COUNTRIES	27	9

Appendices

I.	A STRATEGIC PLAN FOR IMPROVING THE COORDINATION OF FUTURE WORK ON INTERNATIONAL CLASSIFICATIONS	10
II.	LIST OF PARTICIPANTS	13
III.	ANNOTATED AGENDA	15

INTRODUCTION

1. An Expert Group on International Classifications was convened from 6 to 8 December 1994 at the request of the Working Group on International Statistical Programmes and Coordination at its seventeenth session (held from 6 to 9 September 1994). The formal conclusions reached during the Expert Group meeting are set forth below as recommendations to the Commission, and are underlined. These are followed, where appropriate, by a few related points that also emerged during the discussions of the Expert Group. In addition to its formal conclusions, the Expert Group endorsed a Strategic Plan for Improving the Coordination of Future Work on International Classifications, which is contained in appendix I of the present report.

2. Participants in the Expert Group included representatives of international and multinational organizations as well as representatives of a limited number of countries. A list of participants is attached in appendix II of this report. The Expert Group dealt with questions laid out in the annotated agenda, contained in appendix III; the agenda was developed in an iterative process of communications between the Statistical Division of the United Nations Secretariat (UNSTAT) and the participating organizations and countries. This report is structured along the lines of the annotated agenda.

I. CLASSIFICATIONS TO BE REVIEWED BY THE EXPERT GROUP

3. The Expert Group reviewed a wide range of classifications that were suggested in response to a questionnaire sent out to the participants in advance of the meeting. Decisions were taken to reduce the scope to so-called genuine classifications, which lend themselves to several statistical and analytical uses, and further work should focus on so-called core classifications, which have specific linkages to more than one other classification. In their further development, the core classifications should (a) offer guidelines for countries wanting to develop national classifications; (b) like building blocks, facilitate conversions from one classification to another; and (c) facilitate harmonization of concepts and definitions, including predefined links when new versions are developed.

4. Conclusion: The Expert Group agreed to deal in its discussions with those classifications, such as activity classifications, product classifications, classifications of expenditures by function and other classifications, that had a variety of statistical and analytical uses. It would exclude from its discussions the so-called implicit classifications, which included concepts defined in specialized accounting frameworks such as the transactor, transaction and asset classifications of the System of National Accounts (SNA). The exclusion of these classifications from the discussion of the Expert Group was made on the grounds that the concepts defined in them were determined by specialists in national accounts, balance-of-payments and other accounting systems, and were intended for use primarily within those systems.

5. Conclusion: It was agreed that the Expert Group would deal with international classifications, such as the International Standard Industrial

Classification of All Economic Activities (ISIC), the Provisional Central Product Classification (CPC) and the Harmonized Commodity Description and Coding System (HS), as well as linkages with multinational classifications (such as the General Industrial Classification of Economic Activities within the European Communities (NACE) and the Classification of Products by Activity (CPA) developed by the European Union, the North American Industry Classification System (NAICS) developed within the context of the North American Free Trade Agreement (NAFTA), and the Australian and New Zealand Standard Industrial Classification (ANZSIC) developed by Australia and New Zealand) and national classifications.

6. Conclusion: The Expert Group agreed to the following coverage and ad hoc typology of the classifications that it would deal with:

(a) Classifications of economic activities;

(b) Classifications of goods and services;

(c) Classifications of expenditures by purpose;

(d) Classifications of employment and occupations;

(e) Social classifications;

(f) "Country" classifications.

7. It was agreed that some social classifications with economic implications, such as the International Standard Classification of Occupations (ISCO), the International Classification of Status in Employment (ICSE), the International Classification of Impairments, Disabilities and Handicaps (ICIDH) and the International Standard Classification of Education (ISCED), constituted an important field of classifications that should be considered in this context. However, the Expert Group did not feel competent to deal with these in detail in this meeting and suggested that the Expert Group be expanded to include relevant expertise on social statistics for the purpose of discussing the scope of these classifications and their relation to the economic classifications.

8. Although discussion focused on the first three types, the importance of including the latter three was also recognized. It was noted that there were many reasons to revisit classifications and their combined use. For example, the International Labour Office emphasizes links between production activities and the classifications relating to employment. In addition, social accounting matrices and related applications involve cross-classifications of industries, commodities, occupational groupings, and so forth; many social indicators have economic implications; and the development of models requires a variety of classifications.

9. Conclusion: The Expert Group recognized the importance of country classifications based on codes that defined individual countries as well as groupings of countries. It recognized that work was going on within several international organizations on this topic and agreed that it should be discussed further.

10. The International Monetary Fund (IMF) provided a background paper on country classifications, which reviewed the existing standards, the uses to be served and the underlying principles to be considered in such classifications, and proposed a new system consisting of three components: a three-character alphabetic code for a country or international organization, a two-character alphabetic code referring to a collection of countries and a user-defined code for identification of units below the country level.

II. CORE CLASSIFICATIONS

11. Conclusion: The Expert Group agreed that within the activity classification, ISIC would serve as the core classification and that other activity classifications for specific purposes would constitute regroupings to be defined in terms of ISIC categories. Similarly, for product classifications, HS would be the core classification for transportable goods and CPC that for goods and services.

12. There was a general consensus in the Expert Group that a more systematic approach to classifications would require the identification of a number of core classifications within each of the classification groups defined above. Future work could then focus on the further development and maintenance of those core classifications and all other classifications would be derived by regrouping the categories of the core classifications.

13. The Expert Group generally felt that there had been a significant proliferation of product classifications (a long list was presented by the General Agreement on Tariffs and Trade (GATT) in its response to UNSTAT questions) and that much would be gained, in terms of saving resources and reducing confusion, by identifying the most detailed ones that could serve as core classifications. In this context, much attention was given to HS. HS was originally developed as a customs classification; however, because it is the most detailed of the commodity classifications for transportable goods, it has become a widely used source of building blocks for other goods classifications, including the Standard International Trade Classification (SITC) and the goods part of CPC.

14. Conclusion: The Expert Group supported the agreements reached in the Inter-Secretariat Working Group on National Accounts (ISWGNA) with regard to the future work by members of ISWGNA on individual classifications of expenditures by purpose, namely that IMF would take a primary interest in the further development of the Classification of the Functions of Government (COFOG) and the Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI); the Organisation for Economic Cooperation and Development (OECD) would carry out revision work on the Classification of Individual Consumption by Purpose (COICOP); and UNSTAT would carry out further work on the Classification of Outlays of Producers by Purpose (COPP). It supported the ideas developed at UNSTAT to link these classifications through the creation and maintenance of a list of socio-economic and other concerns. It also recognized that COPP was a classification that was somewhat different in nature from the others and whose precise features would need to be further specified. The Expert Group also supported the idea of aligning these classifications with each other as well as

using other existing classifications to define items within the functional classifications.

15. The label for the functional classifications was changed to "classifications of expenditures by purpose", and there was considerable interest in their further development. These classifications were described as differing from the other listed types in that they might not be subsumed under a core classification. Instead, a core list of socio-economic concerns would provide the organizing principle for their development. Such a list would offer two advantages: first, it would serve as an analytical tool for socio-economic issues and second, a list, unlike a classification, could be easily changed as the issues changed. Such changes would be reflected in the classifications through a linkage process.

III. AN INTEGRATED FRAMEWORK OF CLASSIFICATIONS BASED ON LINKS BETWEEN THE CLASSIFICATIONS

16. Conclusion: For the links between corresponding international, multinational and national classifications, the Expert Group defined a number of criteria.

(a) First, the international classification should be the reference classification, the multinational classification might constitute a breakdown of the categories of the international classification, and, similarly, the national classifications might comprise further breakdowns of the multinational classifications. Thus, from the topdown - in other words, in moving from international to national classifications - there should be a one-to-many or one-to-one link among the categories of the classifications, but never a many-to-many link.

(b) Second, while the details of the multinational and national classifications might therefore differ from those of the international classifications, the structure and other characteristics of those classifications should be the same as those of international classifications.

To reach this ideal link among the three levels of classifications, development and revision of international classifications should take into account the experiences with national and multinational classifications. This should be done through an iterative process of comments and adjustments of the international classifications that would take into account the experience and expertise at national and multinational levels.

17. The Working Group also discussed two other types of links between classifications, namely links between the categories of different classifications and analytical links between classifications, when they are used in two-dimensional or multidimensional cross-classifications.

18. Conclusion: The Expert Group took into account the fact that there are close analytical links between these classifications, as they are increasingly being used in comprehensive analyses of expanded national accounting systems based on the 1993 SNA, social accounting matrices and satellite accounts.

19. In an effort to define the conceptual basis for comparing classifications, the Expert Group devoted considerable attention to their content, scope and structure. It was observed that the content of a classification consisted of two dimensions, that is, the things being classified (variously termed "entities", "classification elements", "aspects") and the criteria according to which the things were classified ("classification criteria" or "attributes"). The scope of a classification defines the classification boundary or universe included within the classification. Not all of the universe need necessarily be used, so that the scope of the classification may differ from the scope of the application of the classification. Scope was considered very important because without it each country would be left to decide what the classification included. The structure of a classification refers to the arrangement of classification elements. Data availability and important (socio-)economic concerns are taken into account in the design of the structure of the classifications. Structure was also described as having two dimensions, vertical and horizontal. The vertical dimension is the hierarchical arrangement that defines the aggregated levels; the horizontal dimension is the splitting up of categories at a single level, in other words, in the absence of hierarchical relationships.

20. While no final conclusion was reached on terminology, there was general interest in a conceptual approach to defining a framework for classifications.

21. Conclusion: The further work on indexes and correspondence tables was supported by the Expert Group. In particular, it was thought that indexes would be an essential element in arriving at more precise definitions of categories of individual classifications. Work on correspondence tables and indexes should, however, be closely coordinated through a well-defined conceptual and organizational network (see below) of classifications and work on classifications.

22. In its work on indexes for ISIC, UNSTAT has been the beneficiary of a major project undertaken by Statistics Canada, the United States Bureau of the Census and the Statistical Office of the European Communities (EUROSTAT), involving concordances between NACE, Rev.1, and the two national industry classifications, which uses as a reference point ISIC, Rev.3 (four-digit) classes. The indexes generated though this project are being merged with those from other sources (especially those developed in connection with ISIC, Rev.2) to form the United Nations Classifications Database. Also included in the Database are tables of correspondence among CPC; ISIC, Rev.3; SITC, Rev.3; and HS.

23. In connection with the work on indexes, two challenging issues were identified during the discussion, one concerning the difficulty of elaborating the indexes in other languages and the other related to the fact that the links between classifications were not always commutative.

24. Conclusion: Because of the growing interdependence of classifications, there was a general agreement that further work on classifications could not be effectively carried out unless a network was established defining the relations between those classifications. Such a network would have to be defined in conceptual as well as organizational terms. The conceptual framework of classifications may take as its point of departure the organizing principles of

the SNA and its systems of social accounting matrices and satellite accounts. The organizational network to be developed may take into account the very important experience of the Customs Cooperation Council in the creation and maintenance of HS, as well as the experience of the European Union. Due regard should be given to the work of task forces and other working groups in specific areas of statistics. In developing the specifics of the organizational network, it should be taken into account that experiences with the use of classifications at the national and the multinational level are to be brought together at the international level. This should be the basis for "case law" interpretations of the coverage of individual categories of corresponding international, multinational and national classifications.

25. Throughout the meeting there were discussions of the features of a network of classifications based on conceptual (including analytical) and organizational links. It was noted that in approaching classifications, two conceptual options were available. One option, which constitutes the traditional approach, is to use taxonomies; the second option focuses on guidelines that emphasize economic theory and the analytical applications for which the classifications are to provide a framework. The latter option is currently being pursued in the development of the North American Industry Classification System (NAICS), in which a supply- or production-based orientation is being used to filter invited proposals on the need for change in the Standard Industrial Classification system of the United States of America. It was pointed out that this orientation should be kept analytically distinct from the demand-based orientation characteristic of product classifications. To illustrate the distinction between the two, sugars were taken as an example: Although sugars are derived from various raw materials and involve different technologies, for some applications it is their property as a sweetener that is important. Similar analytical approaches to the development of classifications are being pursued by UNSTAT for a larger number of classifications, including industry, product, and purpose classifications, as well as employment and social classifications.

26. It was pointed out that the standardizing of underlying concepts in future revisions of classifications required coordination from the beginning of the work. Close contact between organizations involved in classifications is basic not only to dealing with the impact of change in one classification on other classifications, but also to minimizing disruptions in the historical continuity of the data based on the classifications.

IV. PRESENT AND FUTURE WORK ON CLASSIFICATIONS BY INTERNATIONAL ORGANIZATIONS AND COUNTRIES

27. Conclusion: Based on the agreed conclusions set forth above, agreements were reached on A Strategic Plan for Improving the Coordination of Future Work on International Classifications (see appendix I for details).

Appendix I

A STRATEGIC PLAN FOR IMPROVING THE COORDINATION OF FUTURE WORK ON INTERNATIONAL CLASSIFICATIONS

1. The Plan that follows was drawn up to carry forward the conclusions reached by the Expert Group. Several of the conclusions are outlined below to emphasize their relationship to the Plan:

(a) Classification work is important and resource-intensive:

(i) It is an ongoing process, involving the development, maintenance, updating, implementation and dissemination of classifications;

(ii) The preparation of indexes, tables of correspondence, and guidance for use are integral parts of the overall work;

(b) International, multinational, and national classifications are interrelated;

(c) The existing classification groups are, in some cases, linked, and they are often used together;

(d) Within some groups of classifications (at least the activity group and the goods and services group), one or two "core" classifications can be identified.

2. A substantial amount of work on various aspects of classification is going on or is planned for the next several years. For example, the preparation of linkages of other economic classifications to HS 1996 is well along; work on functional classifications has been planned under the auspices of the Inter-Secretariat Working Group on National Accounts; ISIC and CPC are being tested as the European Union implements common classifications; and the approach of emphasizing a conceptual basis is being developed by the NAFTA countries.

3. The Plan reflects the view of the Expert Group that there is, however, important additional work to be undertaken in order to gain a better understanding of linkages, for example, and to identify mechanisms for improving coordination.

4. To move in that direction, the Expert Group on International Classifications recommended that UNSTAT convene an Expert Group on Classifications in the second quarter of 1995 to consider three topics and make further recommendations on the basis of papers to be prepared on those topics. A listing of the contents of, and those responsible for, the papers, as well as a proposed schedule for their completion, follows.

Topic I. A NETWORK OF CLASSIFICATIONS: THE CONCEPTUAL LINKAGES

The paper would cover, at least, the links among the classifications of activities, of goods and services, and of expenditures by purpose (featuring the "core" classifications identified for the first two groups of classifications) and, more tentatively, other classifications such as classifications of social statistics.

Primary drafters: UNSTAT and EUROSTAT

Primary consultant(s): Institut national de la statistique et des études économiques (INSEE) and the United States Bureau of Economic Analysis (BEA)

Commitments were made to circulate preliminary drafts on short notice to the Expert Group.

Note: The composition of the Expert Group may change to include participants who have the needed expertise on the topics to be considered.

Topic II. COORDINATING MECHANISMS IN A SETTING OF LINKED AND INTERRELATED CLASSIFICATIONS

The paper would make proposals regarding the membership and processes for a coordinating body mandated to deal with the development, maintenance, updating, implementation, and dissemination of classifications in a setting characterized by linkages among classification groups and interrelations among international, multinational and national classifications. It was suggested that the experiences with the development and maintenance of HS and the European Union's guidelines on the management of classifications should serve as points of departure. Due regard should be given to task forces and other working groups in specific areas of statistics.

Primary drafters: Customs Cooperation Council (CCC)

Primary consultant(s): GATT and EUROSTAT

Commitments were made to circulate preliminary drafts on short notice to the Expert Group.

Topic III. SOCIAL STATISTICS: WHERE DO THEY FIT INTO THE PICTURE?

The paper would present (a) a preliminary inventory of the sets of social statistics used in economic analysis and in constructing models along with the statistics on activities, goods and services, expenditures by purpose, and labour force and (b) an overview of classifications used in these sets of statistics.

Primary drafter: World Bank

Primary consultant(s): Central Statistical Office (CSO) of the United Kingdom of Great Britain and Northern Ireland, UNSTAT, International Labour Organization (ILO)

Commitments were made to circulate preliminary drafts on short notice to the Expert Group.

5. A report, making further recommendations, would be prepared by the Expert Group on Classifications for the Statistical Commission in 1997.

Appendix II

LIST OF PARTICIPANTS

Countries

France	Mr. Emile Bruneau
Mexico	Ms. Suzana Perez Cadena
United Kingdom	Mr. Julian Calder
United States	Ms. Carol Carson Mr. Jack Triplett

International institutions

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GATT	Mr. Jean-Maurice Léger
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Appendix III

ANNOTATED AGENDA

Agenda item 1. New challenges for international classifications

The issues to be discussed under this agenda item include:

1. What type of classifications and what aspects of those classifications should this group deal with?

   (a) Should it be restricted only to "genuine" classifications or also include classifications of conceptual definitions?

   (b) How should the group deal with classifications, given the close interrelationships among international, multinational and national classifications?

   (c) Should the group emphasize, in its discussion of classifications, the content of classifications, and to what extent should it take into consideration structure and scope?

2. Is there a core list of classifications from which all other classifications could be derived and that are representative of the following groups:

   (a) Establishments by industry;

   (b) Produced goods and services;

   (c) Functional classifications of expenditures;

   (d) Employment and occupational classifications;

   (e) Social classifications.

   Note: An oral statement will be presented during the meeting.

3. How could a "system of classifications" be defined and elaborated?

   (a) To what extent should interrelations be defined between classifications?

   (i) Across classifications (for example, between 2 (a) and (b), 2 (b) and (c), 2 (a) and (c), and so forth)?

   (ii) Between successive versions of classifications (for example, between ISIC, Rev.2 and Rev.3)?

(b) Should indexes to classifications be developed such as the Alphabetical index of economic activities and their corresponding ISIC, Rev.2 and 3, codes?

(c) Should correspondence tables between, and indexes to, classifications be established electronically?

Agenda item 2. Present and future work on classifications

The issues to be discussed under this agenda item include:

1. Who is doing/planning to do what on:

   (a) Establishments by industry;

   (b) Produced goods and services;

   (c) Functional classifications of expenditures;

   (d) Employment and occupational classifications;

   (e) Social classifications.

2. Who is doing/planning to do what on correspondence tables between, and indexes to, classifications?

Agenda item 3. How to coordinate future work on classifications

1. Schedule for the next steps.

2. Draft statement for the Statistical Commission in 1995.